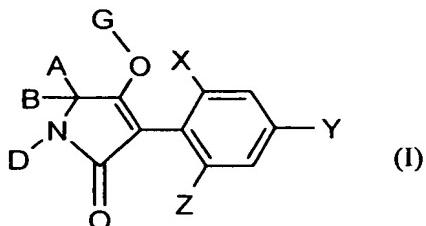


Patent claims

1. Compounds of the formula (I)



in which

5 X represents halogen,

Y represents alkyl and

Z represents C₂-C₆-alkyl,

and, if

G represents hydrogen (a), then

10 A represents hydrogen, C₂-C₈-alkyl, haloalkyl, alkoxyalkyl or optionally substituted cycloalkyl,

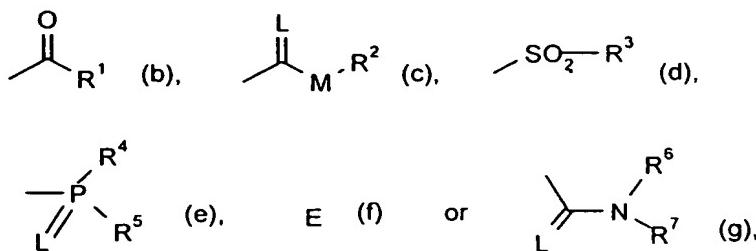
B represents hydrogen, alkyl or alkoxyalkyl,

15 D represents hydrogen or represents an optionally substituted radical from the group consisting of alkyl, alkenyl, alkynyl, alkoxyalkyl, alkylthioalkyl and optionally substituted cycloalkyl,

A and D together with the atoms to which they are attached represent a saturated or unsaturated cycle which optionally contains at least one heteroatom and is unsubstituted or substituted in the A,D moiety,

and, if

20 G represents one of the groups



in which

E represents a metal ion equivalent or an ammonium ion,

L represents oxygen or sulphur,

M represents oxygen or sulphur,

then

R¹ represents in each case optionally substituted alkyl, alkenyl, alkoxyalkyl, alkylthioalkyl or polyalkoxyalkyl or represents in each case optionally halogen-, alkyl- or alkoxy-substituted cycloalkyl or heterocyclyl or represents in each case optionally substituted phenyl, phenylalkyl, phenylalkenyl or hetaryl,

R² represents in each case optionally halogen-substituted alkyl, alkenyl, alkoxyalkyl or polyalkoxyalkyl or represents in each case optionally substituted cycloalkyl, phenyl or benzyl,

R³, R⁴ and R⁵ independently of one another represent in each case optionally halogen-substituted alkyl, alkoxy, alkylamino, dialkylamino, alkylthio, alkenylthio or cycloalkylthio or represent in each case optionally substituted phenyl, benzyl, phenoxy or phenylthio,

R⁶ and R⁷ independently of one another represent hydrogen, represent in each case optionally halogen-substituted alkyl, cycloalkyl, alkenyl, alkoxy, alkoxyalkyl, represent in each case optionally substituted phenyl or benzyl, or together with the N atom to which they are attached form an optionally substituted cycle which optionally contains oxygen or sulphur,

A represents hydrogen, represents in each case optionally substituted halogen-substituted alkyl, alkenyl, alkoxyalkyl or alkylthioalkyl or represents optionally substituted cycloalkyl,

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- B represents hydrogen, alkyl or alkoxyalkyl,
- D represents hydrogen or represents an optionally substituted radical from the group consisting of alkyl, alkenyl, alkynyl, alkoxyalkyl, alkylthioalkyl, or optionally substituted cycloalkyl, or
- 5 A and D together with the atoms to which they are attached represent a saturated or unsaturated cycle which optionally contains at least one heteroatom and is unsubstituted or substituted in the A,D moiety.

2. Compounds of the formula (I) according to Claim 1, in which

- X represents chlorine or bromine,
- 10 Y represents C₁-C₃-alkyl,
- Z represents ethyl, n-propyl or n-butyl,

and, if

- G represents hydrogen (a),

then

- 15 A represents hydrogen, C₂-C₈-alkyl, C₁-C₄-haloalkyl, C₁-C₆-alkoxy-C₁-C₄-alkyl or represents C₃-C₈-cycloalkyl which is optionally mono- to trisubstituted by halogen, C₁-C₄-alkyl or C₁-C₄-alkoxy,

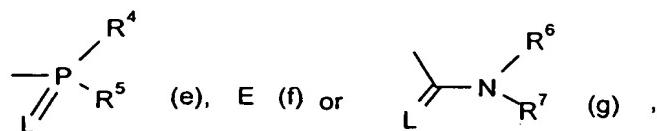
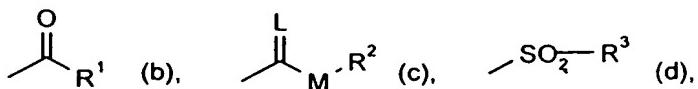
- B represents hydrogen, C₁-C₈-alkyl or C₁-C₆-alkoxy-C₁-C₄-alkyl,

- 20 D represents hydrogen, represents C₁-C₈-alkyl, C₁-C₈-alkenyl, C₁-C₆-alkoxy-C₂-C₄-alkyl or C₁-C₆-alkylthio-C₂-C₄-alkyl, each of which is optionally mono- to trisubstituted by halogen, represents C₃-C₈-cycloalkyl which is optionally mono- to trisubstituted by halogen, C₁-C₄-alkyl, C₁-C₄-alkoxy or C₁-C₂-haloalkyl,

- A and D together represent a C₃-C₆-alkanediyl- or C₃-C₆-alkenediyl group in which in each case optionally one methylene group is replaced by oxygen or sulphur and which are in each case optionally mono- or disubstituted by halogen, hydroxyl, C₁-C₄-alkyl or C₁-C₄-alkoxy, or by a further C₃-C₆-alkanediyl, C₃-C₆-alkenediyl or C₄-C₆-alkanedienediyl group which forms a fused-on ring,

and, if

G represents one of the groups



in which

5 E represents a metal ion equivalent or an ammonium ion,

L represents oxygen or sulphur and

M represents oxygen or sulphur,

then

R¹ represents C₁-C₂₀-alkyl, C₂-C₂₀-alkenyl, C₁-C₆-alkoxy-C₁-C₆-alkyl, C₁-C₆-alkylthio-

10 C₁-C₆-alkyl or poly-C₁-C₄-alkoxy-C₁-C₄-alkyl, each of which is optionally mono- to heptasubstituted by halogen, mono- or disubstituted by cyano, monosubstituted by

COR¹³, C=N-OR¹³, CO₂R¹³ or CON^{R¹³}, or represents C₃-C₈-cycloalkyl which is

optionally mono- to trisubstituted by halogen, C₁-C₄-alkyl or C₁-C₄-alkoxy and in which optionally one or two not directly adjacent methylene groups are replaced by oxygen and/or sulphur,

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represents phenyl, phenyl-C₁-C₂-alkyl or phenyl-C₁-C₂-alkenyl, each of which is optionally mono- to trisubstituted by halogen, cyano, nitro, C₁-C₆-alkoxy, C₁-C₆-haloalkyl, C₁-C₆-haloalkoxy, C₁-C₆-alkylthio, C₁-C₆-alkylsulphinyl or C₁-C₆-alkylsulphonyl,

20

represents 5- or 6-membered hetaryl which is optionally mono- or disubstituted by halogen or C₁-C₆-alkyl and which contains one or two heteroatoms from the group consisting of oxygen, sulphur and nitrogen,

R² represents C₁-C₂₀-alkyl, C₂-C₂₀-alkenyl, C₁-C₆-alkoxy-C₂-C₆-alkyl or poly-C₁-C₆-

alkoxy-C₂-C₆-alkyl, each of which is optionally mono- to trisubstituted by halogen,

represents C₃-C₈-cycloalkyl which is optionally mono- or disubstituted by halogen, C₁-C₆-alkyl or C₁-C₆-alkoxy or

represents phenyl or benzyl, each of which is optionally mono- to trisubstituted by halogen, cyano, nitro, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkyl or C₁-C₆-haloalkoxy,
5

R³ represents C₁-C₈-alkyl which is optionally mono- or polysubstituted by halogen or
represents phenyl or benzyl, each of which is optionally mono- or disubstituted by halogen, C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₄-haloalkyl, C₁-C₄-haloalkoxy, cyano or
10 nitro,

R⁴ and R⁵ independently of one another represent C₁-C₈-alkyl, C₁-C₈-alkoxy, C₁-C₈-alkyl-amino, di-(C₁-C₈-alkyl)amino, C₁-C₈-alkylthio or C₂-C₈-alkenylthio, each of which is optionally mono- to trisubstituted by halogen, or represent phenyl, phenoxy or phenylthio, each of which is optionally mono- to trisubstituted by halogen, nitro, cyano, C₁-C₄-alkoxy, C₁-C₄-haloalkoxy, C₁-C₄-alkylthio, C₁-C₄-haloalkylthio, C₁-C₄-alkyl or C₁-C₄-haloalkyl,
15

R⁶ and R⁷ independently of one another represent hydrogen, represent C₁-C₈-alkyl, C₃-C₈-cycloalkyl, C₁-C₈-alkoxy, C₃-C₈-alkenyl or C₁-C₈-alkoxy-C₂-C₈-alkyl, each of which is optionally mono- to trisubstituted by halogen, represent phenyl or benzyl, each of which is optionally mono- to trisubstituted by halogen, C₁-C₈-alkyl, C₁-C₈-haloalkyl or C₁-C₈-alkoxy, or together represent a C₃-C₆-alkylene radical which is optionally mono- or disubstituted by C₁-C₄-alkyl and in which optionally one methylene group is replaced by oxygen or sulphur,
20

R¹³ represents C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkynyl or C₁-C₄-alkoxy-C₂-C₄-alkyl, each of which is optionally mono- to trisubstituted by halogen, or represents C₃-C₆-cycloalkyl which is optionally mono- or disubstituted by halogen, C₁-C₂-alkyl or C₁-C₂-alkoxy and in which optionally one or two not directly adjacent methylene groups are replaced by oxygen,
25

or represents phenyl or phenyl-C₁-C₂-alkyl, each of which is optionally mono- or disubstituted by halogen, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₄-haloalkyl, C₁-C₄-haloalkoxy, cyano or nitro,
30

- R^{13'} represents hydrogen, C₁-C₆-alkyl or C₃-C₆-alkenyl,
- A represents hydrogen, represents C₁-C₈-alkyl, C₂-C₈-alkenyl, C₁-C₆-alkoxy-C₁-C₄-alkyl or C₁-C₆-alkylthio-C₁-C₄-alkyl, each of which is optionally mono- to trisubstituted by halogen, represents C₃-C₈-cycloalkyl which is optionally mono- to trisubstituted by halogen, C₁-C₄-alkyl or C₁-C₄-alkoxy,
- B represents hydrogen, C₁-C₆-alkyl or C₁-C₄-alkoxy-C₁-C₂-alkyl,
- D represents hydrogen, represents C₁-C₈-alkyl, C₁-C₈-alkenyl, C₁-C₆-alkoxy-C₂-C₄-alkyl or C₁-C₆-alkylthio-C₂-C₄-alkyl, each of which is optionally mono- to trisubstituted by halogen, represents C₃-C₈-cycloalkyl which is optionally mono- to trisubstituted by halogen, C₁-C₄-alkyl, C₁-C₄-alkoxy or C₁-C₂-haloalkyl,
- A and D together represent a C₃-C₆-alkanediyl or C₃-C₆-alkenediyl group in which in each case optionally one methylene group is replaced by oxygen or sulphur and which are each optionally mono- or disubstituted by halogen, hydroxyl, C₁-C₄-alkyl or C₁-C₄-alkoxy or by a further C₃-C₆-alkanediyl, C₃-C₆-alkendiyl or C₄-C₆-alkanedienediyl group which forms a fused-on ring.

3. Compounds of the formula (I) according to Claim 1, in which

X represents chlorine or bromine,

Y represents methyl or ethyl,

Z represents ethyl or n-propyl,

and, if

G represents hydrogen (a), then

A represents hydrogen, C₂-C₆-alkyl, C₁-C₂-haloalkyl, C₁-C₄-alkoxy-C₁-C₃-alkyl or represents C₃-C₆-cycloalkyl which is optionally mono- or disubstituted by fluorine, chlorine, C₁-C₂-alkyl or C₁-C₂-alkoxy,

B represents hydrogen, C₁-C₂-alkyl or C₁-C₄-alkoxy-C₁-C₂-alkyl,

D represents hydrogen,

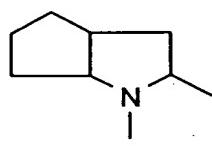
D also represents C₁-C₆-alkyl, C₃-C₆-alkenyl, C₁-C₄-alkoxy-C₂-C₃-alkyl or C₁-C₄-alkyl-

thio-C₂-C₃-alkyl, each of which is optionally mono- to trisubstituted by fluorine or chlorine, represents C₃-C₆-cycloalkyl which is optionally mono- or disubstituted by fluorine, chlorine, C₁-C₂-alkyl, C₁-C₂-alkoxy or trifluoromethyl, with the proviso that in this case

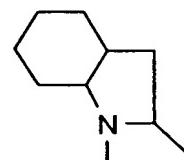
5 A only represents hydrogen or C₁-C₃-alkyl,

A and D together represent a C₃-C₅-alkanediyl group in which optionally one methylene group is replaced by oxygen or sulphur and which is optionally mono- or disubstituted by C₁-C₂-alkyl or C₁-C₂-alkoxy,

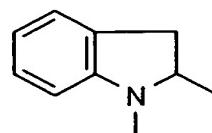
10 or A and D together with the atoms to which they are attached represent one of the groups AD-1 to AD-10



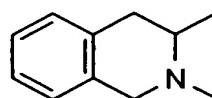
AD-1



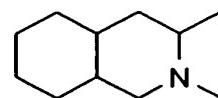
AD-2



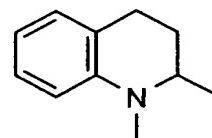
AD-3



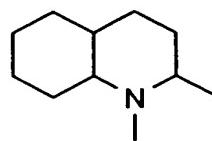
AD-4



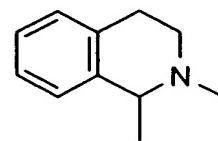
AD-5



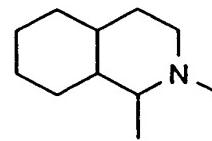
AD-6



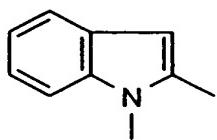
AD-7



AD-8



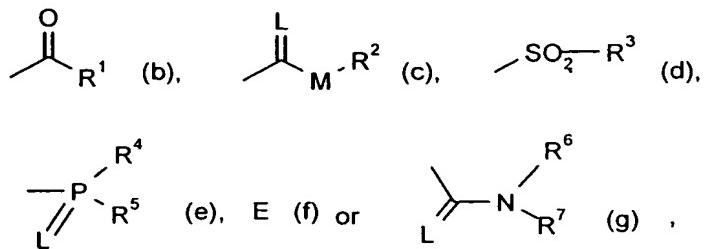
AD-9



AD-10

and, if

G represents one of the groups



in which

5 E represents a metal ion equivalent or an ammonium ion,

L represents oxygen or sulphur and

M represents oxygen or sulphur,

then

10 R¹ represents C₁-C₁₀-alkyl, C₂-C₁₀-alkenyl, C₁-C₄-alkoxy-C₁-C₂-alkyl, C₁-C₄-alkylthio-C₁-C₂-alkyl or poly-C₁-C₃-alkoxy-C₁-C₂-alkyl, each of which is optionally mono- to pentasubstituted by fluorine or chlorine, monosubstituted by cyano, monosubstituted by CO-R¹³, C=N-OR¹³ or CO₂R¹³, or represents C₃-C₆-cycloalkyl which is optionally mono- or disubstituted by fluorine, chlorine, C₁-C₂-alkyl or C₁-C₂-alkoxy and in which optionally one or two not directly adjacent methylene groups are replaced by oxygen,

15 represents phenyl or benzyl, each of which is optionally mono- or disubstituted by fluorine, chlorine, bromine, cyano, nitro, C₁-C₄-alkyl, C₁-C₄-alkylthio, C₁-C₄-alkylsulphinyI, C₁-C₄-alkylsulphonyI, C₁-C₄-alkoxy, C₁-C₂-haloalkyl or C₁-C₂-haloalkoxy,

represents pyrazolyl, thiazolyl, pyridyl, pyrimidyl, furanyl or thieryl, each of which is optionally mono- or disubstituted by fluorine, chlorine, bromine or C₁-C₂-alkyl,

5 R² represents C₁-C₁₀-alkyl, C₂-C₁₀-alkenyl, C₁-C₄-alkoxy-C₂-C₄-alkyl or poly-C₁-C₄-alkoxy-C₂-C₄-alkyl, each of which is optionally mono- to trisubstituted by fluorine or chlorine,

represents C₃-C₇-cycloalkyl which is optionally monosubstituted by C₁-C₂-alkyl or C₁-C₂-alkoxy, or

10 represents phenyl or benzyl, each of which is optionally mono- or disubstituted by fluorine, chlorine, bromine, cyano, nitro, C₁-C₄-alkyl, methoxy, trifluoromethyl or trifluoromethoxy,

R³ represents C₁-C₄-alkyl which is optionally mono- to trisubstituted by fluorine or chlorine or represents phenyl or benzyl, each of which is optionally monosubstituted by fluorine, chlorine, bromine, C₁-C₄-alkyl, C₁-C₄-alkoxy, trifluoromethyl, trifluoromethoxy, cyano or nitro,

15 R⁴ and R⁵ independently of one another each represent C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkylamino, di-(C₁-C₆-alkyl)amino, C₁-C₆-alkylthio or C₃-C₄-alkenylthio, each of which is optionally mono- to trisubstituted by fluorine or chlorine, or represent phenyl, phenoxy or phenylthio, each of which is optionally mono- or disubstituted by fluorine, chlorine, bromine, nitro, cyano, C₁-C₃-alkoxy, trifluoromethoxy, C₁-C₃-alkylthio, C₁-C₃-alkyl or trifluoromethyl,

20

R⁶ and R⁷ independently of one another represent hydrogen, represent C₁-C₆-alkyl, C₃-C₆-cycloalkyl, C₁-C₄-alkoxy, C₃-C₆-alkenyl or C₁-C₆-alkoxy-C₂-C₆-alkyl, each of which is optionally mono- to trisubstituted by fluorine or chlorine, represent phenyl which is optionally mono- or disubstituted by fluorine, chlorine, bromine, trifluoromethyl, C₁-C₄-alkyl or C₁-C₄-alkoxy, or together represent a C₅-C₆-alkylene radical which is optionally mono- or disubstituted by methyl and in which optionally one methylene group is replaced by oxygen,

25

R¹³ represents C₁-C₄-alkyl, C₃-C₄-alkenyl, C₃-C₄-alkynyl or C₁-C₄-alkoxy-C₂-C₃-alkyl or C₃-C₄-cycloalkyl in which optionally one methylene group is replaced by oxygen,

30

A represents hydrogen, represents C₁-C₆-alkyl, C₂-C₆-alkenyl, C₁-C₄-alkoxy-C₁-C₃-alkyl or C₁-C₄-alkylthio-C₁-C₃-alkyl, each of which is optionally mono- to trisubstituted by

fluorine or chlorine, or represents C₃-C₆-cycloalkyl which is optionally mono- or disubstituted by fluorine, chlorine, C₁-C₂-alkyl or C₁-C₂-alkoxy,

B represents hydrogen, C₁-C₄-alkyl or C₁-C₄-alkoxy-C₁-C₂-alkyl,

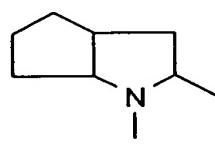
D represents hydrogen or

5 D also represents C₁-C₆-alkyl, C₃-C₆-alkenyl, C₁-C₄-alkoxy-C₂-C₃-alkyl or C₁-C₄-alkyl-thio-C₂-C₃-alkyl, each of which is mono- to trisubstituted by fluorine or chlorine, represents C₃-C₆-cycloalkyl which is optionally mono- or disubstituted by fluorine, chlorine, C₁-C₂-alkyl, C₁-C₂-alkoxy or trifluoromethyl, with the proviso that in this case

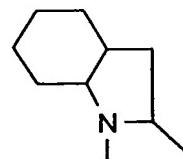
10 A only represents hydrogen or C₁-C₃-alkyl,

A and D together represent a C₃-C₅-alkanediyl group in which optionally one methylene group is replaced by oxygen or sulphur and which is optionally mono- or disubstituted by C₁-C₂-alkyl or C₁-C₂-alkoxy,

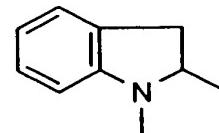
15 or A and D together with the atoms to which they are attached represent one of the groups AD-1 to AD-10



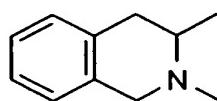
AD-1



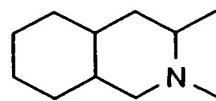
AD-2



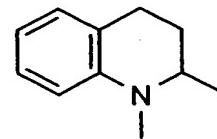
AD-3



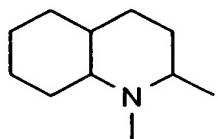
AD-4



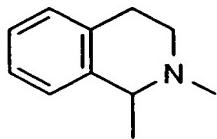
AD-5



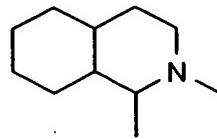
AD-6



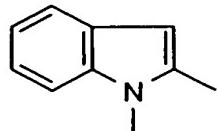
AD-7



AD-8



AD-9



AD-10.

4. Compounds of the formula (I) according to Claim 1, in which

X represents chlorine or bromine,

5 Y represents methyl,

Z represents ethyl,

and, if

G represents hydrogen (a), then

10 A represents hydrogen, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, sec-butyl, tert-butyl, trifluoromethyl, cyclopropyl, cyclopentyl or cyclohexyl,

B represents hydrogen, methyl or ethyl,

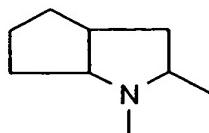
D represents hydrogen,

D also represents methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, isobutyl, cyclopropyl, cyclopentyl or cyclohexyl, with the proviso that in this case

15 A only represents hydrogen, methyl or ethyl,

A and D together represent a C₃-C₄-alkanediyl group in which in each case optionally one methylene group is replaced by oxygen or sulphur and which is optionally mono- or disubstituted by methyl,

or A and D together with the atoms to which they are attached represent the group below:

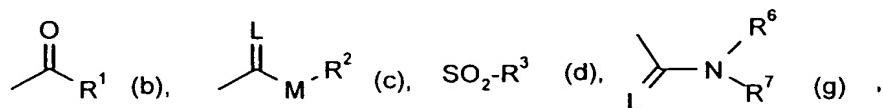


AD-1

5

and, if

G represents one of the groups



in which

L represents oxygen and

10

M represents oxygen or sulphur,

then

15

R^1 represents C_1 - C_6 -alkyl, C_2 - C_6 -alkenyl, C_1 - C_2 -alkoxy- C_1 - C_2 -alkyl, C_1 - C_2 -alkylthio- C_1 - C_2 -alkyl or poly- C_1 - C_2 -alkoxy- C_1 - C_2 -alkyl, each of which is optionally mono- to trisubstituted by fluorine or chlorine, or represents cyclopropyl, cyclopentyl or cyclohexyl, each of which is optionally monosubstituted by fluorine, chlorine, methyl, ethyl or methoxy,

20

represents phenyl which is optionally monosubstituted by fluorine, chlorine, bromine, cyano, nitro, methyl, ethyl, n-propyl, isopropyl, methoxy, ethoxy, methylthio, ethylthio, methylsulphanyl,ethylsulphanyl, methylsulphonyl, ethylsulphonyl, trifluoromethyl or trifluoromethoxy,

represents furanyl, thienyl or pyridyl, each of which is optionally monosubstituted by chlorine, bromine or methyl,

R^2 represents C_1 - C_8 -alkyl, C_2 - C_6 -alkenyl or C_1 - C_3 -alkoxy- C_2 - C_3 -alkyl, cyclopentyl or cyclohexyl,

or represents phenyl or benzyl, each of which is optionally monosubstituted by fluorine, chlorine, bromine, cyano, nitro, methyl, methoxy, trifluoromethyl or trifluoromethoxy,

5 R³ represents C₁-C₄-alkyl which is optionally mono- to trisubstituted by fluorine or chlorine or represents phenyl or benzyl, each of which is optionally monosubstituted by fluorine, chlorine, bromine, C₁-C₄-alkyl, C₁-C₄-alkoxy, trifluoromethyl, trifluoromethoxy, cyano or nitro,

10 R⁶ represents hydrogen, represents C₁-C₄-alkyl, C₃-C₆-cycloalkyl or allyl, represents phenyl which is optionally monosubstituted by fluorine, chlorine, bromine, methyl, methoxy or trifluoromethyl,

R⁷ represents methyl, ethyl, n-propyl, isopropyl or allyl,

R⁶ and R⁷ together represent a C₅-C₆-alkylene radical in which optionally one methylene group is replaced by oxygen,

15 A represents hydrogen, methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, sec-butyl, tert-butyl, trifluoromethyl, cyclopropyl, cyclopentyl or cyclohexyl,

B represents hydrogen, methyl or ethyl,

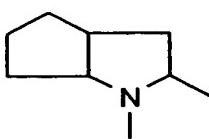
D represents hydrogen,

D also represents methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, isobutyl, cyclopropyl, cyclopentyl or cyclohexyl, with the proviso that in this case

20 A only represents hydrogen, methyl or ethyl,

A and D together represent a C₃-C₄-alkanediyl group in which in each case optionally one methylene group is replaced by oxygen or sulphur and which is optionally mono- or disubstituted by methyl, or

25 A and D together with the atoms to which they are attached represent the group below:



AD-1.

5. Compounds of the formula (I) according to Claim 1, in which

X represents bromine,

Y represents methyl,

Z represents ethyl,

5 and, if

G represents hydrogen (a), then

A represents hydrogen, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, sec-butyl, tert-butyl or cyclopropyl,

B represents hydrogen, methyl or ethyl,

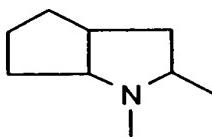
10 D represents hydrogen,

D also represents methyl, ethyl or cyclopropyl, with the proviso that in this case

A only represents hydrogen, methyl or ethyl,

A and D together represent a C₃-C₄-alkanediyl group,

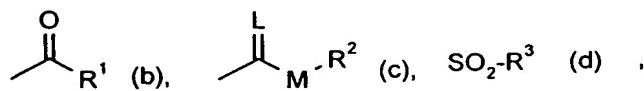
or A and D together with the atoms to which they are attached represent the group
15 below:



AD-1

and, if

G represents one of the groups



in which

L represents oxygen and

M represents oxygen,

then

R¹ represents C₁-C₆-alkyl or C₁-C₂-alkoxy-C₁-C₂-alkyl, each of which is optionally mono- to trisubstituted by fluorine or chlorine,

5 R² represents C₁-C₈-alkyl,

R³ represents C₁-C₄-alkyl,

A represents hydrogen, methyl, ethyl, n-propyl, isopropyl, n-butyl, isobutyl, sec-butyl, tert-butyl or cyclopropyl,

B represents hydrogen, methyl or ethyl,

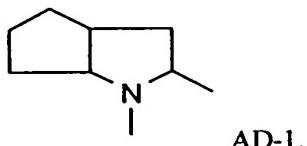
10 D represents hydrogen,

D also represents methyl, ethyl or cyclopropyl, with the proviso that in this case

A only represents hydrogen, methyl or ethyl,

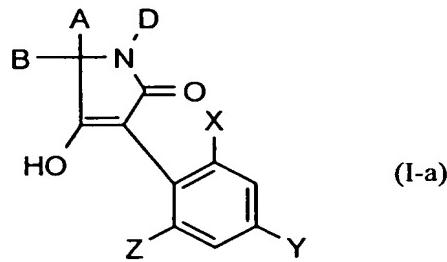
A and D together represent a C₃-C₄-alkanediyl group, or

15 A and D together with the atoms to which they are attached represent the group below:



6. Process for preparing compounds of the formula (I) according to Claim 1, characterized in that, to obtain

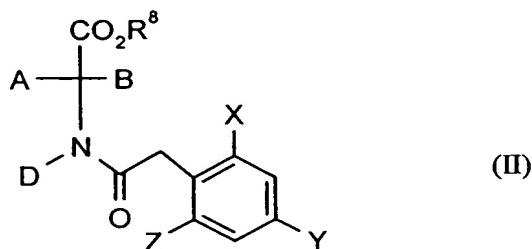
compounds of the formula (I-a),



in which

A, B, D, X, Y and Z are as defined above,

(A) compounds of the formula (II),



5

in which

A, B, D, X, Y and Z are as defined above,

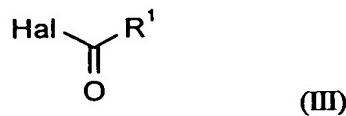
and

R⁸ represents alkyl,

10 are condensed intramolecularly in the presence of a diluent and in the presence of a base,

(B) compounds of the formula (I-b) shown above in which A, B, D, R¹, X, Y and Z are as defined above, compounds of the formula (I-a) shown above in which A, B, D, X, Y and Z are as defined above are reacted

15 a) with acid halides of the formula (III),



in which

R¹ is as defined above and

Hal represents halogen

or

- 5 b) with carboxylic anhydrides of the formula (IV),



in which

R¹ is as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an
10 acid binder,

- (C) compounds of the formula (I-c) shown above in which A, B, D, R², M, X, Y and Z
are as defined above and L represents oxygen, compounds of the formula (I-a) shown
above in which A, B, D, X, Y and Z are as defined above are in each case reacted

with chloroformic esters or chloroformic thioesters of the formula (V),

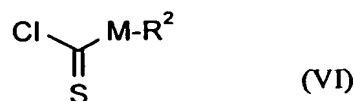


in which

R² and M are as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an
acid binder,

- 20 (D) compounds of the formula (I-c) shown above in which A, B, D, R², M, X, Y and Z
are as defined above and L represents sulphur, compounds of the formula (I-a) shown
above in which A, B, D, X, Y and Z are as defined above are in each case reacted
a) with chloromonothioformic esters or chlorodithioformic esters of the formula (VI),



in which

M and R² are as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder

5

or

B) with carbon disulphide and then with compounds of the formula (VII),



in which

R² is as defined above and

10

Hal represents chlorine, bromine or iodine,

if appropriate in the presence of a diluent and if appropriate in the presence of a base,

(E) compounds of the formula (I-d) shown above in which A, B, D, R³, X, Y and Z are as defined above, compounds of the formula (I-a) shown above in which A, B, D, X, Y and Z are as defined above are in each case reacted

15

with sulphonyl chlorides of the formula (VIII),



in which

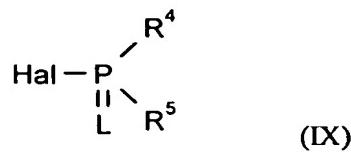
R³ is as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder,

20

(F) compounds of the formula (I-e) shown above in which A, B, D, L, R⁴, R⁵, X, Y and Z are as defined above, compounds of the formula (I-a) shown above in which A, B, D, X, Y and Z are as defined above are in each case reacted

with phosphorus compounds of the formula (IX),



in which

L, R⁴ and R⁵ are as defined above and

Hal represents halogen,

5 if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder,

(G) compounds of the formula (I-f) shown above in which A, B, D, E, X, Y and Z are as defined above, compounds of the formula (I-a) in which A, B, D, X, Y and Z are as defined above are in each case reacted

10 with metal compounds or amines of the formulae (X) and (XI), respectively,



in which

Me represents a mono- or divalent metal,

t represents the number 1 or 2 and

15 R¹⁰, R¹¹, R¹² independently of one another represent hydrogen or alkyl,

if appropriate in the presence of a diluent,

(H) compounds of the formula (I-g) shown above in which A, B, D, L, R⁶, R⁷, X, Y and Z are as defined above, compounds of the formula (I-a) shown above in which A, B, D, X, Y and Z are as defined above are in each case reacted

20 a) with isocyanates or isothiocyanates of the formula (XII),

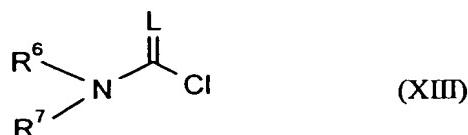


in which

R⁶ and L are as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of a catalyst, or

- 5 b) with carbamoyl chlorides or thiocarbamoyl chlorides of the formula (XIII),



in which

L, R⁶ and R⁷ are as defined above,

if appropriate in the presence of a diluent and if appropriate in the presence of an acid binder.

- 10 7. Use of compounds of the formula (I) according to Claim 1 for preparing pesticides and/or herbicides.
8. Pesticides and/or herbicides, characterized in that they comprise at least one compound of the formula (I) according to Claim 1.
- 15 9. Method for controlling animal pests and/or unwanted vegetation, characterized in that compounds of the formula (I) according to Claim 1 are allowed to act on pests and/or their habitat.
10. Use of compounds of the formula (I) according to Claim 1 for controlling animal pests and/or unwanted vegetation.
- 20 11. Process for preparing pesticides and/or herbicides, characterized in that compounds of the formula (I) according to Claim 1 are mixed with extenders and/or surfactants.
12. Compositions, comprising an effective amount of a combination of active compound comprising
- 25 (a') at least one substituted cyclic ketoenol of the formula (I) according to Claim 1 in which A, B, D, G, X, Y and Z are as defined above and/or at least one compound of the formula I-1-a-45, I-1-a-46, I-1-b-73

and

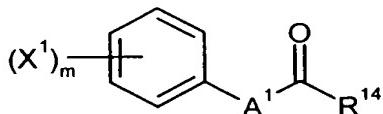
- (b') at least one crop plant compatibility-improving compound from the following group of compounds:

5 4-dichloroacetyl-1-oxa-4-azaspiro[4.5]decane (AD-67, MON-4660), 1-dichloroacetylhexa-hydro-3,3,8a-trimethylpyrrolo[1,2-a]pyrimidin-6(2H)-one (dicycloron, BAS-145138),
10 4-dichloroacetyl-3,4-dihydro-3-methyl-2H-1,4-benzoxazine (benoxacor), 1-methylhexyl 5-chloroquinoline-8-oxyacetate (cloquintocet-mexyl - cf. also related compounds in EP-A-86750, EP-A-94349, EP-A-191736, EP-A-492366), 3-(2-chlorobenzyl)-1-(1-methyl-1-phenylethyl)urea (cumyluron), α -(cyanomethoximino)phenylacetonitrile (cyometrinil), 2,4-dichlorophenoxyacetic acid (2,4-D), 4-(2,4-dichlorophenoxy)butyric acid (2,4-DB), 1-(1-methyl-1-phenylethyl)-3-(4-methylphenyl)urea (daimuron, dymron), 3,6-dichloro-2-methoxybenzoic acid (dicamba), S-1-methyl 1-phenylethyl piperidine-1-thiocarboxylate (dimepiperate), 2,2-dichloro-N-(2-oxo-2-(2-propenylamino)ethyl)-N-(2-propenyl)-acetamide (DKA-24), 2,2-dichloro-N,N-di-2-propenylacetamide (dichlormid),
15 4,6-dichloro-2-phenylpyrimidine (fenclorim), ethyl 1-(2,4-dichlorophenyl)-5-trichloromethyl-1H-1,2,4-triazole-3-carboxylate (fenchlorazole-ethyl - cf. also related compounds in EP-A-174562 and EP-A-346620), phenylmethyl 2-chloro-4-trifluoromethylthiazole-5-carboxylate (flurazole), 4-chloro-N-(1,3-dioxolan-2-yl-methoxy)- α -trifluoroaceto-phenone oxime (fluxofenim), 3-dichloroacetyl-5-(2-furanyl)-2,2-dimethyloxazolidine (furilazole, MON-13900), ethyl 4,5-dihydro-5,5-diphenyl-3-isoxazolecarboxylate (isoxadifen-ethyl - cf. also related compounds in WO-A-95/07897), 1-(ethoxycarbonyl)-ethyl 3,6-dichloro-2-methoxybenzoate (lactidichlor), (4-chloro-o-tolyloxy)acetic acid (MCPA), 2-(4-chloro-o-tolyloxy)propionic acid (mecoprop), diethyl 1-(2,4-dichlorophenyl)-4,5-dihydro-5-methyl-1H-pyrazole-3,5-dicarboxylate (mefenpyr-diethyl - cf. also related compounds in WO-A-91/07874), 2-dichloromethyl-2-methyl-1,3-dioxolane (MG-191), 2-propenyl-1-oxa-4-azaspiro[4.5]decane-4-carbodithioate (MG-838),
20 1,8-naphthalic anhydride, α -(1,3-dioxolan-2-ylmethoximino)phenylacetonitrile (oxabetrinil), 2,2-dichloro-N-(1,3-dioxolan-2-yl-methyl)-N-(2-propenyl)acetamide (PPG-1292), 3-dichloroacetyl-2,2-dimethyloxazolidine (R-28725), 3-dichloroacetyl-2,2,5-trimethyloxazolidine (R-29148), 4-(4-chloro-o-tolyloxy)butyric acid, 4-(4-chlorophenoxy)butyric acid, diphenylmethoxyacetic acid, methyl diphenylmethoxyacetate, ethyl diphenylmethoxyacetate, methyl 1-(2-chlorophenyl)-5-phenyl-1H-pyrazole-3-carboxylate, ethyl 1-(2,4-dichlorophenyl)-5-methyl-1H-pyrazole-3-carboxylate, ethyl 1-(2,4-dichlorophenyl)-5-isopropyl-1H-pyrazole-3-carboxylate, ethyl 1-(2,4-dichlorophenyl)-5-(1,1-di-methylethyl)-1H-pyrazole-3-carboxylate, ethyl 1-(2,4-dichlorophenyl)-5-phenyl-

25
30
35

1H-pyrazole-3-carboxylate (cf. also related compounds in EP-A-269806 and EP-A-333131), ethyl 5-(2,4-dichlorobenzyl)-2-isoxazoline-3-carboxylate, ethyl 5-phenyl-2-isoxazoline-3-carboxylate, ethyl 5-(4-fluorophenyl)-5-phenyl-2-isoxazoline-3-carboxylate (cf. also related compounds in WO-A-91/08202), 1,3-dimethylbut-1-yl 5-chloroquinoline-8-oxyacetate, 4-allyloxybutyl 5-chloroquinoline-8-oxyacetate, 1-allyloxyprop-2-yl 5-chloroquinoline-8-oxyacetate, methyl 5-chloroquinoxaline-8-oxyacetate, ethyl 5-chloroquinoline-8-oxyacetate, allyl 5-chloroquinoxaline-8-oxyacetate, 2-oxoprop-1-yl 5-chloroquinoline-8-oxyacetate, diethyl 5-chloroquinoline-8-oxymalonate, diallyl 5-chloroquinoxaline-8-oxymalonate, diethyl 5-chloroquinoline-8-oxymalonate (cf. also related compounds in EP-A-582198), 4-carboxychroman-4-ylacetic acid (AC-304415, cf. EP-A-613618), 4-chlorophenoxyacetic acid, 3,3'-dimethyl-4-methoxybenzophenone, 1-bromo-4-chloromethylsulphonylbenzene, 1-[4-(N-2-methoxybenzoylsulphamoyl)-phenyl]-3-methylurea (also known as N-(2-methoxybenzoyl)-4-[(methylaminocarbonyl)-amino]benzenesulphonamide), 1-[4-(N-2-methoxybenzoylsulphamoyl)phenyl]-3,3-dimethylurea, 1-[4-(N-4,5-dimethylbenzoylsulphamoyl)phenyl]-3-methylurea, 1-[4-(N-naphthylsulphamoyl)phenyl]-3,3-dimethylurea, N-(2-methoxy-5-methylbenzoyl)-4-(cyclopropylaminocarbonyl)benzenesulphonamide,

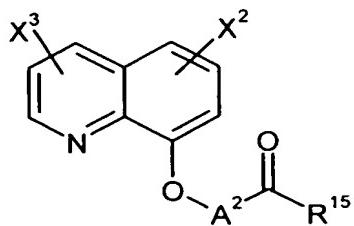
and/or one of the following compounds, defined by general formulae, of the general formula (IIa)



(IIa)

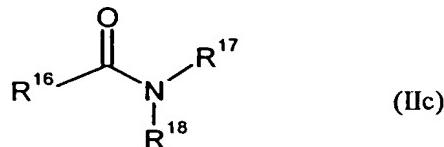
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or of the general formula (IIb)



(IIb)

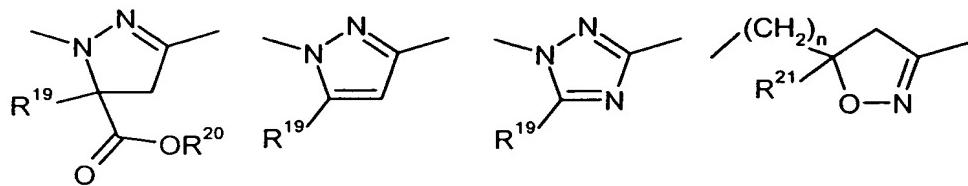
or of the formula (IIc)



where

m represents a number 0, 1, 2, 3, 4 or 5,

5 A¹ represents one of the divalent heterocyclic groupings shown below,



n represents a number 0, 1, 2, 3, 4 or 5,

A² represents optionally C₁-C₄-alkyl- and/or C₁-C₄-alkoxy-carbonyl- and/or alkenyloxy-carbonyl-substituted alkanediyl having 1 or 2 carbon atoms,

10 R¹⁴ represents hydroxyl, mercapto, amino, C₁-C₆-alkoxy, C₁-C₆-alkylthio, C₁-C₆-alkylamino or di-(C₁-C₄-alkyl)amino,

R¹⁵ represents hydroxyl, mercapto, amino, C₁-C₇-alkoxy, C₁-C₆-alkenyloxy, C₁-C₆-alkenyloxy-C₁-C₆-alkoxy, C₁-C₆-alkylthio, C₁-C₆-alkylamino or di-(C₁-C₄-alkyl)-amino,

15 R¹⁶ represents in each case optionally fluorine-, chlorine- and/or bromine-substituted C₁-C₄-alkyl,

R¹⁷ represents hydrogen, in each case optionally fluorine-, chlorine- and/or bromine-substituted C₁-C₆-alkyl, C₂-C₆-alkenyl or C₂-C₆-alkynyl, C₁-C₄-alkoxy-C₁-C₄-alkyl, dioxolanyl-C₁-C₄-alkyl, furyl, furyl-C₁-C₄-alkyl, thienyl, thiazolyl, piperidinyl, or optionally fluorine-, chlorine- and/or bromine- or C₁-C₄-alkyl-substituted phenyl,

20 R¹⁸ represents hydrogen, in each case optionally fluorine-, chlorine- and/or bromine-substituted C₁-C₆-alkyl, C₂-C₆-alkenyl or C₂-C₆-alkynyl, C₁-C₄-alkoxy-C₁-C₄-alkyl,

dioxolanyl-C₁-C₄-alkyl, furyl, furyl-C₁-C₄-alkyl, thienyl, thiazolyl, piperidinyl, or optionally fluorine-, chlorine- and/or bromine- or C₁-C₄-alkyl-substituted phenyl, R¹⁷ and R¹⁸ also together optionally represent C₃-C₆-alkanediyl or C₂-C₅-oxaalkanediyl, each of which is optionally substituted by C₁-C₄-alkyl, phenyl, furyl, a fused benzene ring or by two substituents which, together with the C atom to which they are attached, form a 5- or 6-membered carbocycle,

5 R¹⁹ represents hydrogen, cyano, halogen, or represents in each case optionally fluorine-, chlorine- and/or bromine-substituted C₁-C₄-alkyl, C₃-C₆-cycloalkyl or phenyl,

10 R²⁰ represents hydrogen, optionally hydroxyl-, cyano-, halogen- or C₁-C₄-alkoxy-substituted C₁-C₆-alkyl, C₃-C₆-cycloalkyl or tri-(C₁-C₄-alkyl)silyl,

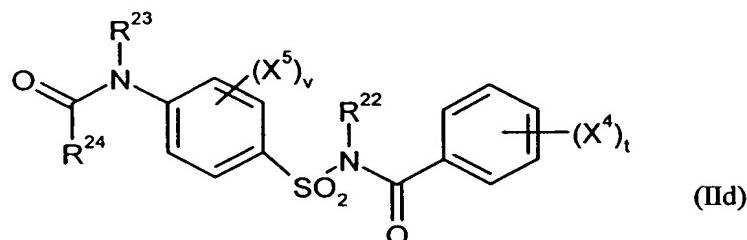
R²¹ represents hydrogen, cyano, halogen, or represents in each case optionally fluorine-, chlorine- and/or bromine-substituted C₁-C₄-alkyl, C₃-C₆-cycloalkyl or phenyl,

X¹ represents nitro, cyano, halogen, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy,

15 X² represents hydrogen, cyano, nitro, halogen, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy,

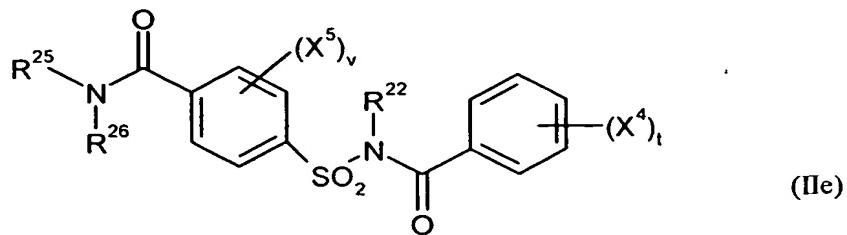
X³ represents hydrogen, cyano, nitro, halogen, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy,

and/or the following compounds, defined by general formulae, of the general formula (IId)



20

or the general formula (IIe)



where

t represents a number 0, 1, 2, 3, 4 or 5,

v represents a number 0, 1, 2, 3, 4 or 5,

5 R²² represents hydrogen or C₁-C₄-alkyl,

R²³ represents hydrogen or C₁-C₄-alkyl,

10 R²⁴ represents hydrogen, in each case optionally cyano-, halogen- or C₁-C₄-alkoxy-substituted C₁-C₆-alkyl, C₁-C₆-alkoxy, C₁-C₆-alkylthio, C₁-C₆-alkylamino or di-(C₁-C₄-alkyl)amino, or in each case optionally cyano-, halogen- or C₁-C₄-alkyl-substituted C₃-C₆-cycloalkyl, C₃-C₆-cycloalkyloxy, C₃-C₆-cycloalkylthio or C₃-C₆-cycloalkylamino,

15 R²⁵ represents hydrogen, optionally cyano-, hydroxyl-, halogen- or C₁-C₄-alkoxy-substituted C₁-C₆-alkyl, in each case optionally cyano-, or halogen-substituted C₃-C₆-alkenyl or C₃-C₆-alkynyl, or optionally cyano-, halogen- or C₁-C₄-alkyl-substituted C₃-C₆-cycloalkyl,

20 R²⁶ represents hydrogen, optionally cyano-, hydroxyl-, halogen- or C₁-C₄-alkoxy-substituted C₁-C₆-alkyl, in each case optionally cyano- or halogen-substituted C₃-C₆-alkenyl or C₃-C₆-alkynyl, optionally cyano-, halogen- or C₁-C₄-alkyl-substituted C₃-C₆-cycloalkyl, or optionally nitro-, cyano-, halogen-, C₁-C₄-alkyl-, C₁-C₄-halo-alkyl, C₁-C₄-alkoxy- or C₁-C₄-haloalkoxy-substituted phenyl, or together with R²⁵ represents in each case optionally C₁-C₄-alkyl-substituted C₂-C₆-alkanediyl or C₂-C₅-oxaalkanediyl,

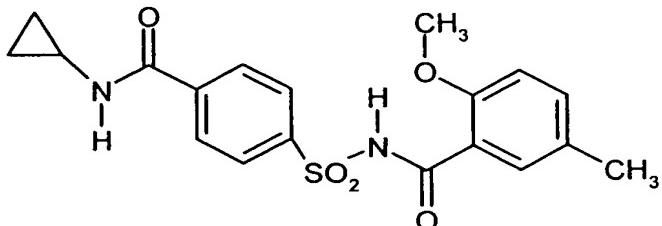
25 X⁴ represents nitro, cyano, carboxyl, carbamoyl, formyl, sulphamoyl, hydroxyl, amino, halogen, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy, and

X⁵ represents nitro, cyano, carboxyl, carbamoyl, formyl, sulphamoyl, hydroxyl, amino,

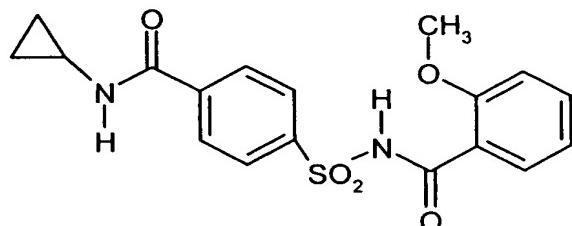
halogen, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy.

13. Compositions according to Claim 12, where the crop plant compatibility-improving compound is selected from the following group of compounds:

cloquintocet-mexyl, fenchlorazole-ethyl, isoxadifen-ethyl, mefenpyr-diethyl, furilazole, fenclorim, cumyluron, dymron or the compounds



and



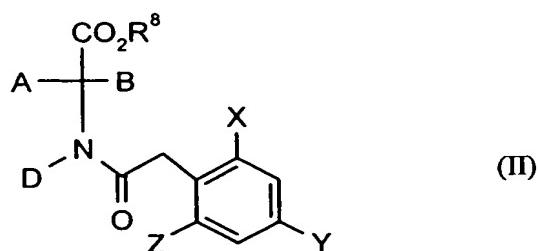
14. Compositions according to Claim 12 or 13, where the crop plant compatibility-improving compound is cloquintocet-mexyl or mefenpyr-diethyl.

10

15. Method for controlling unwanted vegetation, characterized in that a composition according to Claim 12 is allowed to act on the plants or their habitat.

16. Use of a composition according to Claim 12 for controlling unwanted vegetation.

17. Compounds of the formula (II)

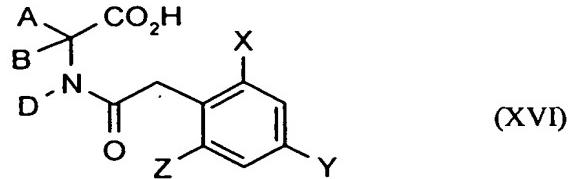


15

in which

A, B, D, R⁸, X, Y and Z are as defined above.

18. Compounds of the formula (XVI)

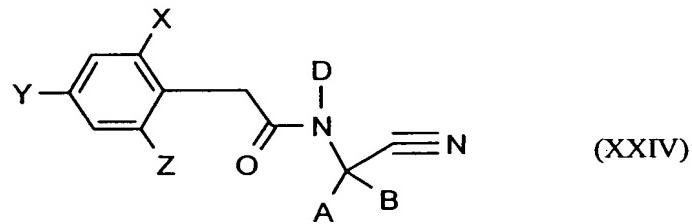


5

in which

A, B, D, X, Y and Z are as defined above.

19. Compounds of the formula (XXIV)



in which

10 A, B, D, X, Y and Z are as defined above.